

### **Remarks**

Claims 1 - 35 are pending in the application.

#### **Allowable Subject Matter**

Claims 11 - 22 have been indicated as allowable. Claim 2 has been objected to, but as allowable if rewritten in independent form. The Applicants thank the Examiner for the indication of allowable subject matter, but respectfully request reconsideration in view of the following remarks.

#### **Rejected Claims**

Claims 1, 3 - 19, and 23 - 25 are rejected under 35 U.S.C. Section 102(e) as unpatentable over Fukumoto, U.S. Patent 6,621,065. Reconsideration of these claims in view of the following remarks is respectfully requested.

Independent claims 1, 23, 30, and 34 each recite a ring light source that communicates with a light pipe. As discussed at page 6, lines 6 - 8 and page 8 lines 6 - 26 of the application as filed, a light pipe is a device that includes an "extended barrel of light transmissive material". The pipe acts as a "wave guide for visible and near visible light". That is, light is transmitted through the light pipe and is directed onto an underlying surface.

Each of the independent claims further recite the limitation that the light pipe includes a tip adapted to project an illumination pattern. The tip is specifically angled to provide a low-angle dark field illumination pattern on the underlying surface, particularly of light exiting the tip.

Fukumoto discloses an imaging probe that includes a CCD camera 27 and two light sources: a down projection illumination source 31 and a ring illumination source 13. The ring illumination source is mounted at a distal end of a chassis of the imaging device on an annular

frame 71. Light emitted from both sources is directed through a diffusing element to provide uniform illumination. Particularly, a diffusing plate 74 is attached to the illumination source to provide uniform illumination from the source 13 (See column 5 lines 15 - 18) and a diffusing plate 33 is provided in the down projection illumination source. All of the lighting elements within this device are diffused, e.g. spread out over a large area, not concentrated (Concise Oxford English Dictionary, Oxford University Press, 2004; see also Websters New Universal Unabridged Dictionary, Barnes & Noble Publishing, 2003 (spread or scatter widely); The American Heritage Dictionary, Dell Publishing, 2001 (widely spread or scattered).

There are, therefore, a number of substantial differences between the device disclosed by the Fukumoto reference and the claimed invention. Fukumoto discloses lighting elements that are intentionally diffused to provide a uniform field of illumination. Angling the device does not result in directing the light at any particular angle, since the light has been intentionally spread over a large area in virtually all directions. Moreover, the lighting elements, as can be seen from Fig. 2, are directed toward a center of the imaging device 1, and are centered around a CCD 27 for acquiring an image. The lighting conditions will remain the same with respect to the sensor, irrespective of the angle of the device.

The illumination ring disclosed by Fukumoto, moreover, does not communicate with a tip adapted to project an illumination pattern. On the contrary, Fukumoto discloses a ring of lights that communicate only with a diffuser that is intended to provide uniform illumination.

Fukumoto, moreover does not disclose a light pipe, as recited in each of the rejected independent claims, or any device that provides the function of a waveguide. Fukumoto, moreover, fails to disclose an illumination ring that communicates with a light pipe, or with any pipe.

Fukumoto, therefore does not disclose all of the elements of any of the rejected claims. Moreover, rather than teaching a low-angle illumination, Fukumoto takes clear and deliberate steps to avoid such illumination. In view of these substantial distinctions, the Applicants respectfully request that the rejection under 35 U.S.C. Section 102(e) be withdrawn.

**Conclusion**

In view of the amendments, claims 1 - 35 are considered to be in condition for allowance, and a notice of allowance for these claims is respectfully requested.

No fees are believed necessary for entry of this response. However, the Commissioner is authorized to charge any fees under 37 CFR § 1.17 that may be due on this application to Deposit Account 17-0055. The Commissioner is also authorized to treat this amendment and any future reply in this matter requiring a petition for an extension of time as incorporating a petition for extension of time for the appropriate length of time as provided by 37 CFR § 136(a)(3).

Respectfully submitted,

Carl W. Gerst, III, *et al.*

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By: Terri S. Flynn/  
Terri S. Flynn  
Quarles & Brady LLP  
Reg. No. 41,756  
Attorney for Applicant  
411 East Wisconsin Avenue  
Milwaukee, WI 53202-4497  
(414) 277-5229